



CO.09-5

Reader File

CO.09

Department of Energy

Washington, DC 20585

AUG 03 1998

Mr. Donald H. Simpson
Uranium and Special Projects Unit
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Dr. S.
Denver, Colorado 80222-1530

Dear Mr. Simpson:

We have reviewed your letter of July 10, 1998, requesting that the Department of Energy (DOE) reconsider its decision to exclude the Marion Millsite in Boulder County, Colorado, from remediation under the Formerly Utilized Sites Remedial Action Program (FUSRAP). As you may know, FUSRAP is no longer administered and executed by DOE as Congress transferred the program to the U.S. Army Corps of Engineers beginning in fiscal year 1998. Nonetheless, we weighed the information included in your letter against the criteria we formerly used to accept sites into FUSRAP and concluded that our previous decision remained valid (i.e., the site was not eligible for remediation under FUSRAP).

Our review further indicated that the Marion Millsite might fall under Title II of the Uranium Mill Tailings Radiation Control Act of 1978 (as amended) since the site seemed to be active and licensed on or after 1978. If the site qualifies under Title II and it can also be demonstrated that direct contracts existed between the site and the Federal government for the sale of uranium or thorium, remediation funding could be requested under Title X of the Energy Policy Act of 1992 (as amended) for the proportionate share of cleanup costs attributable to such sales.

For further information on FUSRAP, contact Mr. James Wagoner at 301-903-8147. For information on Title II sites, contact Mr. David Mathes at 301-903-7222.

Sincerely,

James J. Fiore
Acting Deputy Assistant Secretary
for Environmental Restoration



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STATE OF COLORADO

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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

<http://www.cdphe.state.co.us>

July 10, 1998

Mr. James J. Fiore

Acting Deputy

Assistant Secretary for Environmental Restoration

U.S. Department of Energy

Germantown, Maryland 20874-1290

Dear Mr. Fiore:

In 1983, the U.S. Department of Energy (DOE) declared that the Marion Millsite in Boulder County, Colorado was ineligible for cleanup under the Formerly Utilized Sites Remedial Action Program (FUSRAP)(DOE, 1983). The basis for the decision was contained in a DOE report, *Formerly Utilized Sites Program - Program Ineligibility Report for the Marion Mill Site, Boulder, Colorado* (DOE, 1995). The Colorado Department of Public Health and Environment's (Department) review of the report concludes that the decision was based on insufficient evidence. The question remains as to the Atomic Energy Commission's (AEC) role in procurement of thorium from Wah Chang's Marion Mill operation in Colorado during the period 1957-1959. This letter provides information that shows AEC's involvement at the site. The Department hereby petitions for reconsideration of DOE's decision and requests the Marion Millsite be found eligible for FUSRAP remediation.

The site is situated in a narrow canyon in a rapidly growing residential area with housing developments established both upstream and downstream from the mill. It is imperative that proper action be taken to protect the health and safety of residents from these impounded contaminants now and in the future.

At stake is the cleanup of approximately 30,000 tons of radiologically contaminated tailings and residues impounded and stabilized on site. The site is bordered on the side next to the impoundment by Bummers Gulch with a perennial stream. The impoundment is stable for the present, but there have been three known releases (in 1964, 1969 and 1980) of tailings to Bummers Gulch. The 1980 release was estimated at 35 cubic yards of residues and 500,000 gallons of process water as far as 1.6 miles downstream. The present owner, Mr. Gordon Sweeney, contracted to have the contaminated material from the 1980 release cleaned up, but some scattered residues still remain downstream from the site, buried under sediments and vegetative growth.

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In the report, *Formerly Utilized Sites Program - Program Ineligibility Report for the Marion Mill Site, Boulder, Colorado*, DOE concludes that while the site contains uranium and thorium bearing residue with radiation levels and concentrations of radionuclides in excess of FUSRAP guidelines, the residue is not the result of Manhattan Engineering District (MED) or AEC operations. FUSRAP determined that it did not have the authority to perform remedial action at the Marion Millsite. This conclusion was derived from the fact that the facility was licensed to handle nuclear material. The report states that no evidence was identified which connects the Marion Mill operations with MED/AEC operations. In addition, the report states, the site is currently licensed by the State of Colorado.

The following information documents AEC involvement in thorium production at the Marion Mill:

1. Licensing History

DOE determined that it did not have the authority to perform remedial action at the Marion Millsite because the facility was licensed to handle nuclear materials. The Marion Mill was not licensed during the Wah Chang ownership period, 1953-1959. Although an application for license was made to AEC by Wah Chang on January 1, 1958 to process thorium ores (Vranesh and Raisch, 1996), the license was not issued.

Thorium ores were processed only during the period 1957-1959; no thorium ores were processed at the Marion Mill after Wah Chang sold the property in 1959. In the license application to AEC, Wah Chang stated it expected to upgrade raw ores containing 1-10% ThO₂, by mechanical means, to produce a concentrate of 10-35% ThO₂ and was expecting to produce about 20,000 lb per month of upgraded concentrate. This is a sizeable quantity for the 50s, and this amount added to that supplied by other producers would have exceeded the demand for private use.

Edwin Hays, Ralph Dunn and Earl Sweeney purchased the mill from Wah Chang in 1959. Earl Sweeney applied for an AEC license in 1962 to process source material. The material processed was sub (D-) grade tungsten concentrate from Climax Molybdenum Company which contained sufficient uranium to be source material. License No. SUA-724 was issued on September 16, 1963 for storage of source material. The license was modified November 4, 1963 to include processing.

Lenway Mining and Development Corporation purchased the mill in 1964. Lenway continued processing Climax concentrate through about 1967 and other ores including molybdenum ore from near Apex, Gilpin County and tin-tantalum ore from Australia in 1968. The Australian ore was a yttrio-tantalite ore with sufficient uranium and thorium to be classified source material. Lenway operated under AEC License No. SUA-774. Earl G. Sweeney operated the mill as General Manager for Lenway. Sweeney was issued a storage only license, License No. SUC-912, for storage on site of uranium-bearing material produced while he owned the mill.

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The Colorado involvement came long after the thorium production had ceased. Colorado became an agreement state on February 1, 1968. The first Colorado license for the mill, Colorado 149-01S, was issued to Earl Sweeney July 1, 1973, to permit processing of uranium-containing materials. The license was amended April 1, 1988, when processing of source material ceased and application was made for possession and storage only. The Colorado license for possession and storage is currently issued to Sweeney Mining and Milling Corporation which lists Mr. Gordon Sweeney as the President of the corporation.

2. Thorium Production

DOE contends that the thorium concentrate produced by Wah Chang and sold to Davison Chemical Company was likely a commercial venture. The sheer volume of concentrate produced by Wah Chang and the affidavit of Mr. Harold Miller, former Technical Director of the Colorado Division of Wah Chang, stating that thorium ore was upgraded at the Marion Mill under contract, refute the suggestion that the production was a private venture, but rather was a part of AEC's planned procurement program (Vranesh and Raisch, 1986).

Weigh scale receipts have been located which document shipment of 252,399 lbs of thorium concentrate during the production period, 1958-1959 (Vranesh and Raisch, 1996). Note that the weigh scale receipts document a substantial increase in the amount of shipped material reported previously. Given a contained thorium content of 10-35% for the upgraded concentrate, these shipments accounted for 25,240 to 88,340 lbs of contained thorium, in less than two years - more than would be reasonable for commercial production at that time.

The thorium concentrate was shipped to Davison Chemical Company, subsidiary of W.R. Grace and Company, to their Curtis Bay works in Baltimore, Maryland. Harold Miller states in his affidavit that Grace Chemical had a contract from the AEC to produce thorium oxide for the thermal breeder reactor to be constructed in South Carolina (Vranesh and Raisch, 1986).

3. Contracts

Attempts to obtain copies of the contracts or other information concerning AEC procurement from the agencies and companies involved at the time have been unsuccessful so far. DOE stated in the FUSRAP review that no contracts or connections between Wah Chang thorium processing and the AEC were identified and that there are no records to substantiate the claims.

In response to a request for records made by Gordon Sweeney's attorney in 1983, Mr. Armin Willie, Davison Chemical Company, stated "to the best of my knowledge, we do not now have any shipping and/or receiving records for the period 1958-1959 in our possession. These are presumed to have been destroyed in due time after License R-196 was terminated." (Davison Chemical Division, 1983)

In a letter to the U.S. Nuclear Regulatory Commission in 1983, Gordon Sweeney's attorney requested copies of documents, under the Freedom of Information Act, concerning contracts, reports and correspondence between AEC and Davison Chemical Company (Vranesh and Raisch, 1983), but no answer was received. It is uncertain if a similar request was made to Wah Chang since there is no Department file correspondence available on the subject.

In the absence of these records it is difficult to substantiate or disprove contractual agreements for AEC procurement of the thorium concentrates. Although the contracts would provide positive proof, other evidence strongly suggests AEC involvement.

4. AEC Control Over Operations

DOE states that the AEC neither owned or controlled the site. However, there is evidence that the AEC exercised control over the site.

In Harold Miller's affidavit regarding the ultimate disposition of thorium concentrates processed at the Marion Millsite during 1958-1959, he states that the AEC contract awarded to the W.R. Grace and Company was given to Wah Chang to upgrade thorium ore (Vranesh and Raisch, 1986). Mr. John E. Baublitz, DOE, stated in DOE's *Summary of Authority Review for Marion Millsite, Boulder, Colorado* that Mr. Miller's statement did not impact the FUSRAP decision. This is difficult to comprehend, since Mr. Miller's sworn statements establish a link with Wah Chang and the AEC through W.R. Grace and Company (Davison Chemical Company). It also establishes the end use of the thorium concentrates - AEC's thermal breeder reactor program.

Mr. Don Simpson and Art Burnham of the Department interviewed Harold Miller on June 10, 1997 and he reaffirmed the information in his affidavit. He also reinforced statements regarding AEC's presence and involvement in Wah Chang's thorium concentrate production. During his work as Technical Director of the Colorado Division of Wah Chang, he operated the lab that did assay work on the ores received and the product shipped. AEC inspectors made monthly visits to his lab and checked his assay records. This contradicts the FUSRAP finding that the AEC did not have significant role in the operations. Why did AEC monitor the operations so closely if it had insignificant control in the operation? Mr. Miller stated that W.R. Grace and Company (parent owner of Davison Chemical Company) was never in the business of producing thorium for commercial or private use. He thought Lindsey Chemical produced most of the commercially-used thorium during this time. Whenever Mr. Miller visited the W.R. Grace facility in Curtis Bay, Baltimore, Maryland, where the Wah Chang thorium concentrates were shipped, he could not enter the facility without the government security clearance required as a condition of his employment. Why was the security clearance required if the AEC was not involved in the operation?

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In a telephone conversation on June 30, 1997 with Mr. Mike Nelson, former Associate and Director of the New York Office of Wah Chang that had oversight of the Boulder Operations, stated that the thorium concentrates were sold to Davison Chemical Company for government use, even though there was no license in effect at the time.

These statements demonstrate AEC had a significant involvement in the Boulder operation and the procurement of the thorium concentrate produced at the site.

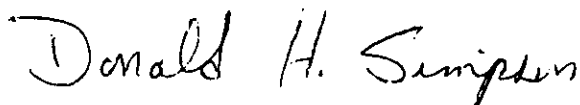
5. FUSRAP Remediation of the W.R. Grace and Company, Curtis Bay, Maryland Site

The W.R. Grace Curtis Bay, Maryland facility has been designated a FUSRAP site and is currently being remediated under this program. The facility consists of one building and a landfill-type disposal area. In 1955, AEC entered into a contract with W.R. Grace to process AEC-owned monazite ore obtained from both foreign and domestic sources. The plant operated from May 1956 to late spring 1957.

Weigh scale receipts show the Wah Chang thorium concentrates were shipped to Davison Chemical Company, a subsidiary of W.R. Grace and Company, in Curtis Bay, Maryland during 1958-1959. Although records of receipts of the concentrates are missing, other evidence indicates that W.R. Grace received the material. Since the Wah Chang concentrates were received at a facility undergoing FUSRAP remediation, the link to the Marion Millsite is established and the site should be remediated as the production end of the process.

The foregoing discussion is presented to support the Department's request for reconsideration of DOE's decision to exclude the Marion Millsite from FUSRAP remediation. Although there is lack of documentation regarding the link between the Marion Mill and the MED, other evidence demonstrates that the AEC had a substantial role in the production and procurement of the thorium concentrates from Wah Chang. The Marion Millsite should therefore be eligible for remediation under FUSRAP and the Department requests reconsideration of the decision to the contrary in light of this additional evidence.

Sincerely,



Donald H. Simpson
Uranium and Special Projects Unit
Hazardous Materials and Waste Management Division

cc: Anne Wright, U.S. Army Corp of Engineers

References

Davison Chemical Division, subsidiary of W.R. Grace and Company, letter, September 14, 1983 to John R. Henderson, Vranesh and Raisch.

U.S. Department of Energy, letter, September 22, 1983, from John E. Baublitz, DOE, to John R. Henderson, Vranesh and Raisch, stating the Marion Millsite is not eligible for inclusion in FUSRAP.

U.S. Department of Energy, letter, January 24, 1995, from James W. Wagoner II, DOE, to Homer Page, Boulder County Commissioner's Office. Includes the report *Formerly Utilized Sites Program - Program Ineligibility Report for the Marion Mill Site, Boulder, Colorado, Summary of Authority Review For Marion Millsite, Boulder, Colorado* and copies of DOE's FUSRAP file on the Sweeney Millsite.

Vranesh and Raisch, letter from John R. Henderson, June 25, 1986, to John E. Baublitz, DOE, with enclosures.

Vranesh and Raisch, letter from John R. Henderson, June 27, 1983 to U.S. Nuclear Regulatory Commission.

Vranesh and Raisch, letter from John R. Henderson, August 7, 1996, to Robert M. Quillin, Colorado Department of Public Health and Environment, with enclosures.

GRACE

Davison Chemical Division

W. R. Grace & Co.
P.O. Box 2117
Baltimore, Maryland 21203

(301) 659-9000
Direct Dial (301) 659-9093

September 14, 1983

Vranesh & Raisch
2120 13th Street
P.O. Box 871
Boulder, Colorado 80306

Dear Mr. Henderson:

I have received your letter, dated August 26, 1983, regarding shipment of thorium concentrate from your client's predecessor to our Curtis Bay Works.

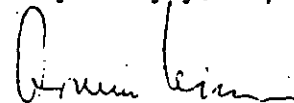
Please be advised that, to the best of my knowledge, we do not now have any shipping and/or receiving records for the period 1957-1959 in our possession. These are presumed to have been destroyed in due time after License R-196 was terminated.

For your information, the thorium processing operation at our Curtis Bay plant was terminated in the Spring of 1957 and the plant dismantled shortly thereafter.

In your letter you mention that Wah Chang Corp. shipped "significant" quantities to us. We would appreciate if you could send copies of the shipping records since we are curious as to how much material was shipped.

Finally, please be advised that I am no longer involved in this matter and all further inquiries should be directed to Mr. Burton L. Mobley, Manager of Environmental Control Department at the same address.

Very truly yours,



Armin Wille
Engineering Group Manager

AW/cm

cc: J. H. Hardwicke
B. L. Mobley
H. Evans